

the satisfaction of the cognizant Officer in Charge, Marine Inspection (OCMI) on or after March 11, 1996, must comply with this part. Replacement of existing equipment, not including wire or cable, installed on the vessel prior to March 11, 1996, need not comply with the regulations in this part.

### Subpart B—General Requirements

#### § 120.200 General design, installation, and maintenance requirements.

Electrical equipment on a vessel must be installed and maintained to:

- (a) Provide services necessary for safety under normal and emergency conditions;
- (b) Protect passengers, crew, other persons, and the vessel from electrical hazards, including fire, caused by or originating in electrical equipment, and electrical shock;
- (c) Minimize accidental personnel contact with energized parts; and
- (d) Prevent electrical ignition of flammable vapors.

#### § 120.210 Protection from wet and corrosive environments.

- (a) Electrical equipment used in the following locations must be dripproof:
  - (1) A machinery space;
  - (2) A location normally exposed to splashing, water washdown, or other wet conditions within a galley, a laundry, or a public washroom or toilet room that has a bath or shower; or
  - (3) Another space with a similar moisture level.
- (b) Electrical equipment exposed to the weather must be watertight.
- (c) Electrical equipment exposed to corrosive environments must be of suitable construction and corrosion-resistant.

#### § 120.220 General safety provisions.

- (a) Electrical equipment and installations must be suitable for the roll, pitch, and vibration of the vessel underway.
- (b) All equipment, including switches, fuses, lampholders, etc., must be suitable for the voltage and current utilized.
- (c) Receptacle outlets of the type providing a grounded pole or a specific direct current polarity must be of a

configuration that will not permit improper connection.

(d) All electrical equipment and circuits must be clearly marked and identified.

(e) Any cabinet, panel, box, or other enclosure containing more than one source of power must be fitted with a sign warning persons of this condition and identifying the circuits to be disconnected.

### Subpart C—Power Sources and Distribution Systems

#### § 120.310 Power sources.

(a)(1) Each vessel that relies on electricity to power the following loads must be arranged so that the loads can be energized from two sources of electricity:

- (i) The vital systems listed in § 119.710 of this chapter;
- (ii) Interior lighting except for decorative lights;
- (iii) Communication systems including a public address system required under § 121.610 of this chapter; and
- (iv) Navigation equipment and lights.

(2) Except as provided in § 120.312 of this part, a vessel with batteries of adequate capacity to supply the loads specified in paragraph (a)(1) of this section for three hours, and a generator or alternator driven by a propulsion engine, complies with the requirement in paragraph (a)(1) of this section.

(b) Where a ship service generator driven by a propulsion engine is used as a source of electrical power, a vessel speed change, throttle movement or change in direction of the propeller shaft rotation must not interrupt power to any of the loads specified in paragraph (a)(1) of this section.

#### § 120.312 Power sources on vessels of more than 19.8 meters (65 feet) in length carrying more than 600 passengers or with overnight accommodations for more than 49 passengers.

A vessel of more than 19.8 meters (65 feet) in length carrying more than 600 passengers or with overnight accommodations for more than 49 passengers must have:

- (a) Two generator sets;

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(b) An electrical power system that complies with the requirements of §§111.10-4, 111.10-5, and 111.10-9, in subchapter J of this chapter;

(c) A final emergency power source, as defined by §112.01-20 in subchapter J of this chapter, with sufficient capacity to power the loads listed in §112.15-5 in subchapter J of this chapter for three hours; and

(d) The final emergency power source located outside the machinery space.

[CGD 85-080, 61 FR 928, Jan. 10, 1996, as amended by 62 FR 51352, Sept. 30, 1997; USCG-2011-0618, 76 FR 60754, Sept. 30, 2011]

### § 120.320 Generators and motors.

(a) Each generator and motor must be:

(1) In a location that is accessible, adequately ventilated, and as dry as practicable; and

(2) Mounted above the bilges to avoid damage by splash and to avoid contact with low lying vapors.

(b) Each generator and motor must be designed for an ambient temperature of 50 °C (122 °F) except that:

(1) If the ambient temperature in the space where a generator or motor will be located will not exceed 40 °C (104 °F) under normal operating conditions, the generator or motor may be designed for an ambient temperature of 40 °C (104 °F); and

(2) A generator or motor designed for 40 °C (104 °F) may be used in 50 °C (122 °F) ambient locations provided the generator or motor is derated to 80 percent of the full load rating, and the rating or setting of the overcurrent devices is reduced accordingly.

(c) A voltmeter and an ammeter, which can be used for measuring voltage and current of a generator that is in operation, must be provided for a generator rated at 50 volts or more. For each alternating current generator, a means for measuring frequency must also be provided.

(d) Each generator must have a nameplate attached to it containing the information required by Article 445 of the National Electrical Code (NEC) (National Fire Protection Association (NFPA) 70), and for a generator derated in accordance with paragraph (b)(2) of this section, the derated capacity.

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(e) Each motor must have a nameplate attached to it containing the information required by Article 430 of the NEC (NFPA 70), and for a motor derated in accordance with paragraph (b)(2) of this section, the derated capacity.

(f) Each generator must be protected by an overcurrent device set at a value not exceeding 115 percent of the generator full load rating.

[CGD 85-080, 61 FR 928, Jan. 10, 1996, as amended at 62 FR 51352, Sept. 30, 1997]

### § 120.322 Multiple generators.

When a vessel is equipped with two or more generators to supply ship's service power, the following requirements must be met:

(a) Each generator must have an independent prime mover; and

(b) The generator circuit breakers must be interlocked to prevent the generators from being simultaneously connected to the switchboard, except for the circuit breakers of a generator operated in parallel with another generator when the installation meets §§111.12-11(f), and 111.30-25(d) in subchapter J of this chapter.

### § 120.324 Dual voltage generators.

(a) A dual voltage generator installed on a vessel shall be of the grounded type, where:

(1) The neutral of a dual voltage system must be solidly connected at the switchboard's neutral bus; and

(2) The neutral bus shall be connected to ground.

(b) The neutral of a dual voltage system must be accessible for checking the insulation resistance of the generator to ground before the generator is connected to the bus.

(c) Ground detection must be provided that:

(1) For an alternating current system, meets §111.05-27 in subchapter J of this chapter; and

(2) For a direct current system, meets §111.05-29 in subchapter J of this chapter.